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English Translation of JP-A-6-60100
Column 2, line 3 to Column 6, line 10

[0005] Fig. 1 is an example illustrating a principle structure of the present invention. In Fig. 1, reference numeral 1 designates a ticket reservation center which performs a centralized management of ticket reservations.
[0006] Reference numeral 2 designates a reservation managing file in the ticket reservation center, where data representing a state of ticket reservations is stored. Reference numeral 3 designates a host computer which processes a request such as a reservation inquiry, a reservation or a cancellation from a terminal, and makes reference, renewal and the like of the reservation managing file 2.
[0007] Reference numeral 4 designates a ticket reservation terminal provided in a house of a user or the like, which is provided with a ticket-reservation request processing function 5 and an IC card input-output function 6. Reference numeral 7 designates a ticket issuing terminal provided in a place where tickets are utilized, which is provided with an IC card input-output function 8 and a ticket-issue processing function 9.
[0008] Reference numeral 10 designates an IC card for a ticket reservation. Reference numeral 11 designates an issued ticket. Although the ticket reservation terminal 4 is connected to the ticket reservation center 1 via a public telephone line network, the ticket issuing terminal 7 may be connected to the ticket reservation center 1 via a dedicated line.
[0009]
[Operation] A function and operation of the structure of Fig. 1 will be explained. When a user having an IC card carries out a ticket reservation, the IC card is inserted into the ticket reservation terminal 4 to drive the ticket-reservation request processing function 5, thus carrying out a request of a reservation inquiry on a

desired ticket. In the request of the reservation inquiry, a communication line is settled between the ticket reservation terminal 4 and the ticket reservation center 1, and then reservation request of the desired ticket is performed.

[0010] As request of the reservation inquiry is received, the host computer 3 in the ticket reservation center 1 makes reference to the reservation managing file 2, and then informs a reservation state of the requested ticket to the ticket reservation terminal 4. When there is a vacancy in the reservation state of the requested ticket, the user carries out a reservation request, and when the reservation is available at the moment, the host computer 3 performs a reservation process to renew the data in the reservation managing file 2. This result is informed to the ticket reservation terminal 4, and the IC card input-output function 6 is driven to write in the IC card 10 the reservation information by using a procedure and a data form based on a predetermined code (protocol).

[0011] The IC card 10 in which the reservation information is written is held by the user as it is, and a ticket issuing request is carried out at the time when the ticket is utilized. In that occasion, the IC card 10 is inserted into the ticket issuing terminal 7, and the IC card input-output function 8 reads the reservation information based on the predetermined code. After that, the reservation information is analyzed by the ticket-issue processing function 9, and a respective ticket 11 is outputted from a printer (not shown).

[0012] The user receives the outputted ticket, meanwhile, the ticket issuing terminal 7 informs to the ticket reservation center 1 that the ticket reservation is concluded and the ticket is issued.

[0013] As explained above, after the user makes a ticket reservation by using a terminal within easy reach, and writes reservation information into an IC card, there is no need for the user to do till the ticket is utilized.

Also, the employment of the special code allows the reservation information in the IC card to be protected, so that it is possible to avoid utilization caused by an unfair writing.

[0014]

[Embodiment] A structure of one embodiment of the present invention is illustrated in Fig. 2. The illustrated embodiment utilizes a home-use terminal as a ticket reservation terminal.

[0015] In Fig. 2, reference numeral 12 designates a ticket sales center in an establishment such as a means of transport, a theater, etc. Reference numeral 13 designates a reservation management system for managing a state of reservations.

[0016] Reference numeral 14 designates an admission terminal provided in a window of a station or theater. Reference terminal 15 designates a broadcasting station for broadcasting the information of a state of ticket reservations (unoccupied / occupied) at the request of the ticket sales center 12.

[0017] Reference numeral 16 designates a home-use terminal. Reference numeral 17 designates a telecast and teletext receiving section. Reference numeral 18 designates a television picture control section for performing the display control of signals of a received telecast or teletext.

[0018] Reference numeral 19 designates a television set. Reference numeral 20 designates a CPU for controlling the entire home-use terminal 16. Reference numeral 21 designates a software card section serving as an interface structure for inserting programs and data for expanding the function of the home-use terminal 16 by using a software card. In this case, a program for realizing the ticket reservation function is provided in the home-use terminal 16 by using the software card.

[0019] Reference numeral 22 designates a data processing section which performs a data processing required in the

home-use terminal 16. Reference numeral 23 designates a data storing section which is used for storing operation data at a data processing.

[0020] Reference numeral 24 designates a communication line control section which performs a line control and a protocol control for the purpose of a data communication. Reference numeral 25 designates a public telephone line network.

[0021] Reference numeral 26 designates an IC card reader writer control section which has an input and output processing function of an IC card. Reference numeral 27 designates an IC card provided with a processor and a memory, which is used for holding reservation information and is a medium for transmitting information from the home-use terminal 16 to the admission terminal 14. The processor of the IC card operates in accordance with one special protocol that is defined in advance at the time when the reservation information is written or read, surely preventing reservation information from being written or read by the third party who has no knowledge of the protocol.

[0022] The ticket sales center 12 broadcasts a state of airfare tickets or concert tickets having vacancies by utilizing a teletext program of the broadcasting station 15. A user receives the teletext program by means of the telecast and teletext receiving section 17 and the television picture control section 18 of the home-use terminal 16 and the television set 19. And, when there is some unoccupied ticket that is a desired one, the user performs a reservation request to the reservation management system 13 of the ticket sales center 12 via the communication line control section 24 and the public telephone line network 25. When the reservation is effective, the reservation information is written into the IC card 27 via the IC card reader writer control section 26.

[0023] The user takes the IC card 27 to a place where the

ticket is going to be used, such as a theater or a railway station, shortly before the date and time when the user requests to use the ticket, i.e., the reserved date and time when the ticket becomes effective, and inserts the IC card 27 into the admission terminal 14 by himself or herself, thus performing a ticket issue request. The admission terminal 14 reads the reservation information from the IC card 27 and issues the ticket, automatically.

[0024] Next, another embodiment where the present invention is applied to a parking lot reservation system will be explained with reference to Fig. 3. Fig. 3 is a schematic view of the embodiment of the parking lot reservation system. In Fig. 3, reference numeral 28 designates a parking lot information center, 29 designates a broadcasting station for broadcasting parking lot information by teletext, 30 designates a parking lot, 31 and 32 designate respective parking lot terminals set at the exit and the entrance of the parking lot, 33 designates a user terminal set in a user's house or a user's vehicle, 34 designates an IC card for guiding and reserving the parking lot, and 35 designates a public telephone line network. Also, numerals from (1) to (11) shown in the diagram are procedure numbers for explaining an operation of the embodiment. Hereinafter, the operation will be explained in accordance with the procedure numbers.

(1). The parking lot terminals 31 and 32 inform to the parking lot information center 28 a parking lot information such as the number of vacancies in the parking lot or the number of vehicles entering and exiting gates, etc.

(2). The parking lot information center 28 holds a database for a centralized management of parking lot information in a specific area such as a shopping district. The parking lot information in this database is transmitted to the broadcasting station 29.

(3). The broadcasting station 29 arranges the parking lot

information transmitted from the parking lot information center 28 into a teletext program, and broadcasts it.
(4). The user inserts the IC card 34 into the user terminal 33 to drive a program for informing parking lots and controlling reservations.
(5). The user terminal 33 establishes a communication line between the parking lot information center 28 and the user terminal 33 through the public telephone line network 35 to display a menu of the parking lot information in the window of the user terminal.
(6). The user designates a destination area in the menu window.
(7). The user terminal 33 receives the information of a state of vacancies in parking lots at the destination and the area around it from the parking lot information center 28, to display the information in the window. In this step, the user designates whether or not the user makes a reservation. When no reservation is made, the program concludes, and when the user makes a reservation, the program proceeds to (8).
(8). The user inputs the reservation information including a parking lot number and a scheduled date and time zone of parking through an operation portion (not shown), and then pushes a completion button. This operation allows the reservation information to be transmitted to the parking lot information center 28. When it is possible to accept the reservation, the parking lot information center 28 performs a reservation accepting process and returns a reservation acceptance number to the user terminal 33. In the user terminal 33, the reservation acceptance number is written into the IC card 34, thereby concluding the reservation process. On the other hand, in the parking lot information center 28, reservation information such as a respective reservation acceptance number, a user ID number, a scheduled date and time zone, etc. is informed to the parking lot terminals 31 and 32 in a reserved parking lot (set as 30), and stored.

(9). The user with the IC card 34 in which the reservation acceptance number is written moves to his / her destination by car.

(10). The user inserts the IC card 34 into the parking lot terminal (set as 32) at the entrance of the parking lot at his / her destination to have the reservation acceptance number read. The parking lot terminal 32 collates the read reservation acceptance number with the reservation acceptance number informed from the parking lot information center 28 in advance. Only when it is determined that the user is a proper customer who made the reservation, the parking lot terminal 32 prepares to open a gate, and otherwise, the parking lot terminal 32 raises the alarm.

(11). The parking lot terminal 32 writes an entrance time into the IC card 34, and when the user extracts the IC card, the parking lot terminal 32 opens the gate to allow the user to park.

(12). When the user makes his / her exit from the parking lot 30, the IC card 34 is inserted again into the parking lot terminal 31 at the exit of the parking lot to have the information read.

(13). The parking lot terminal 31 obtains a parked time which is a difference between the entrance time and current time to calculate a parking fare, and then allows the user to select out of the following fare adjustment (payment) methods.

[0025] Payment in cash ?

Payment through an electronic wallet ?

Payment through a bank account ?

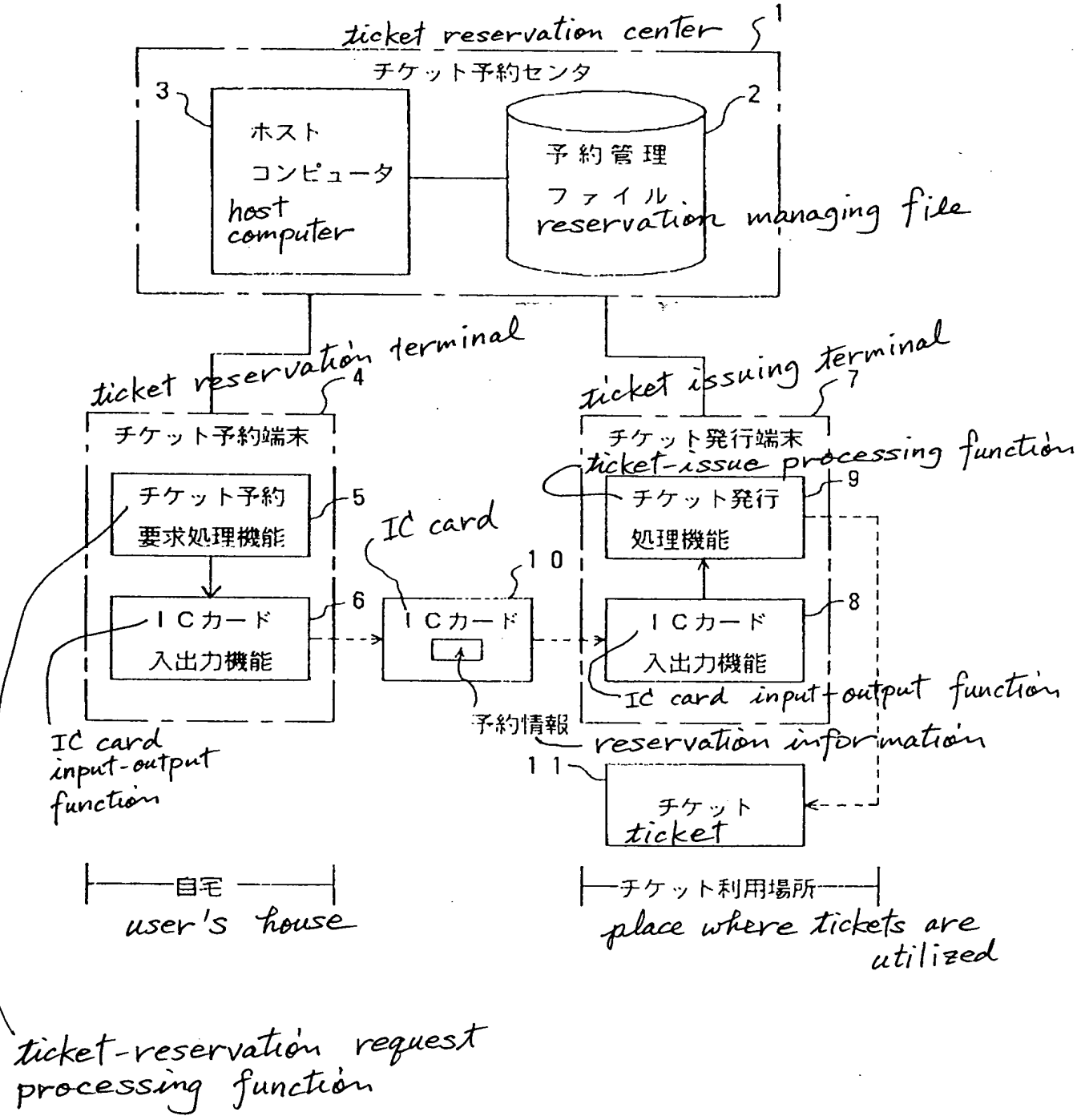
(14). When the parking lot terminal 31 is operated to determine the payment method and the payment procedure is completed, the reservation acceptance number memorized in the IC card 34 is deleted. When the user extracts the IC card 34, the gate opens.

(15). The information of a bank approval other than a payment in cash is transmitted to the parking lot

information center 28 to be used in payment from a designated bank.

[0026] Fig. 4 illustrates a structure of the information stored in the IC card 34. Reference numeral 36 in this figure designates an individual identification number area where an ID code for identifying an individual is stored. Reference numeral 37 designates an individual information area which includes a scratch-pad area for storing the information such as the reservation acceptance number that is to be deleted after usage, a semi-fixed area for storing data that renews and holds the amount of money or point of an electric wallet or stamp (point), and a fixed area for storing a bank account number, an individual registration number and the like that are deletion-prohibited individual information. Reference numeral 38 designates a system control information area for assembling programs and information for a terminal control, a communication control and the like according to their individual applications.

Fig. 1
【図1】
principle structure of the present invention
本発明の原理的構成図



structural diagram of one embodiment of the present invention

【図2】 Fig 2

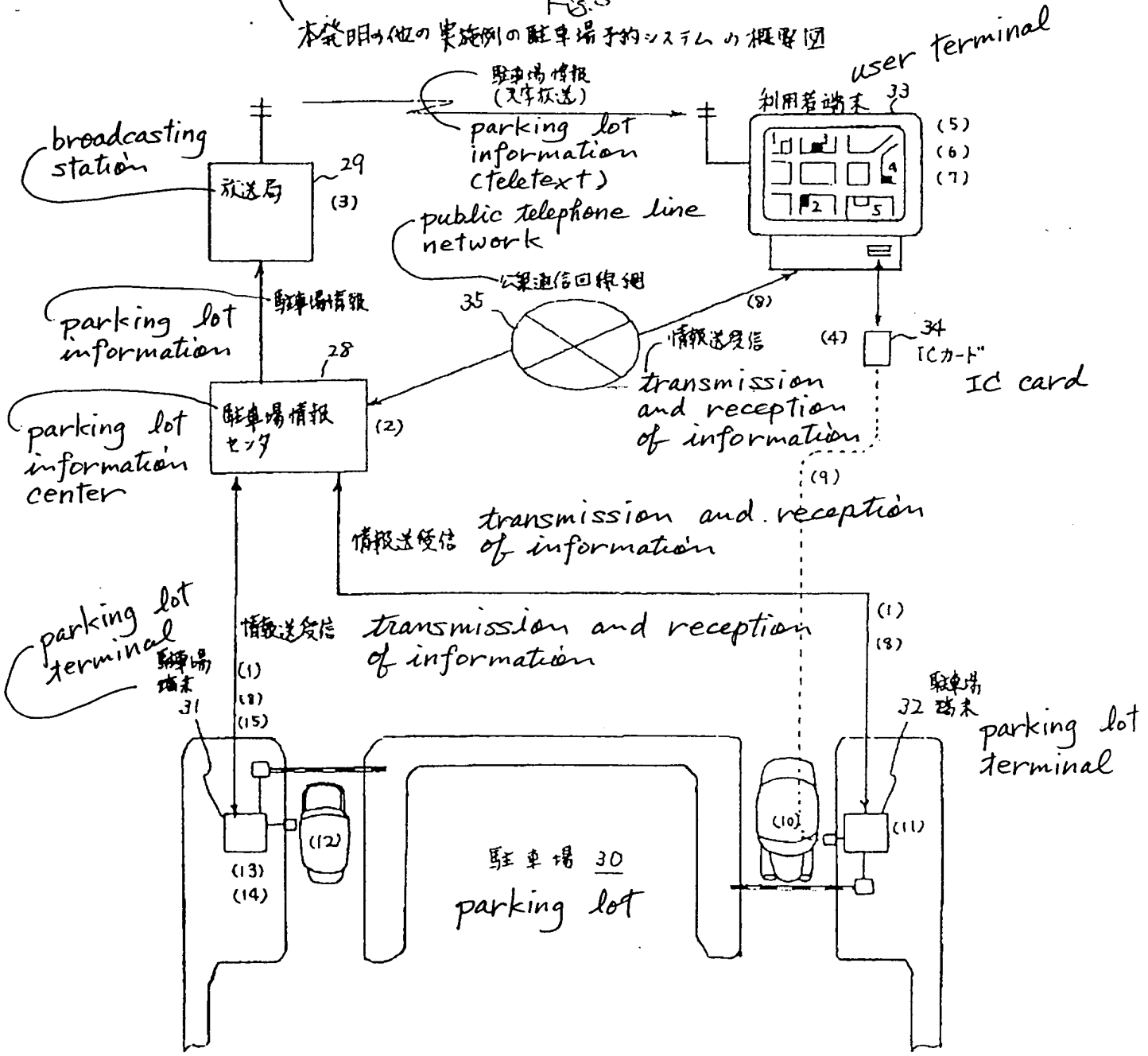
本発明の1実施例の構成図

schematic diagram of a parking lot reservation system of another embodiment of the present invention

【図3】

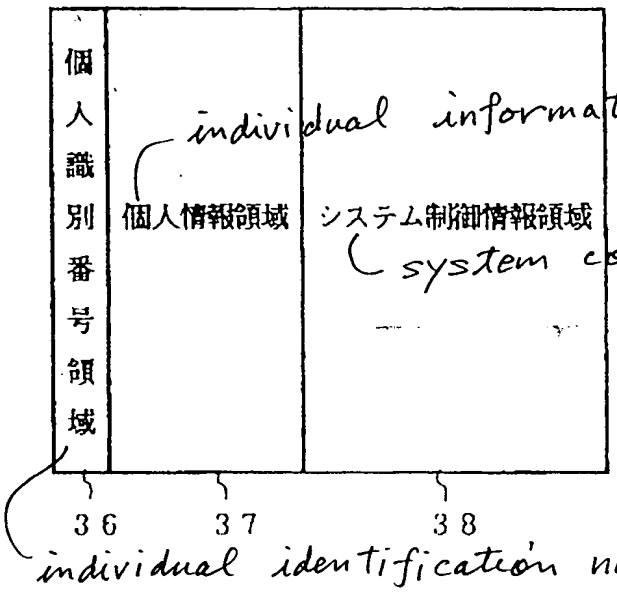
Fig.3

本発明の他の実施例の駐車場予約システムの概要図



explaining diagram illustrating a structure
【図4】 of the information stored
Fig. 4 in an IC card
ICカードの記憶情報構成の説明図

34 ICカード IC card

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【提出日】平成4年8月19日
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【図3】